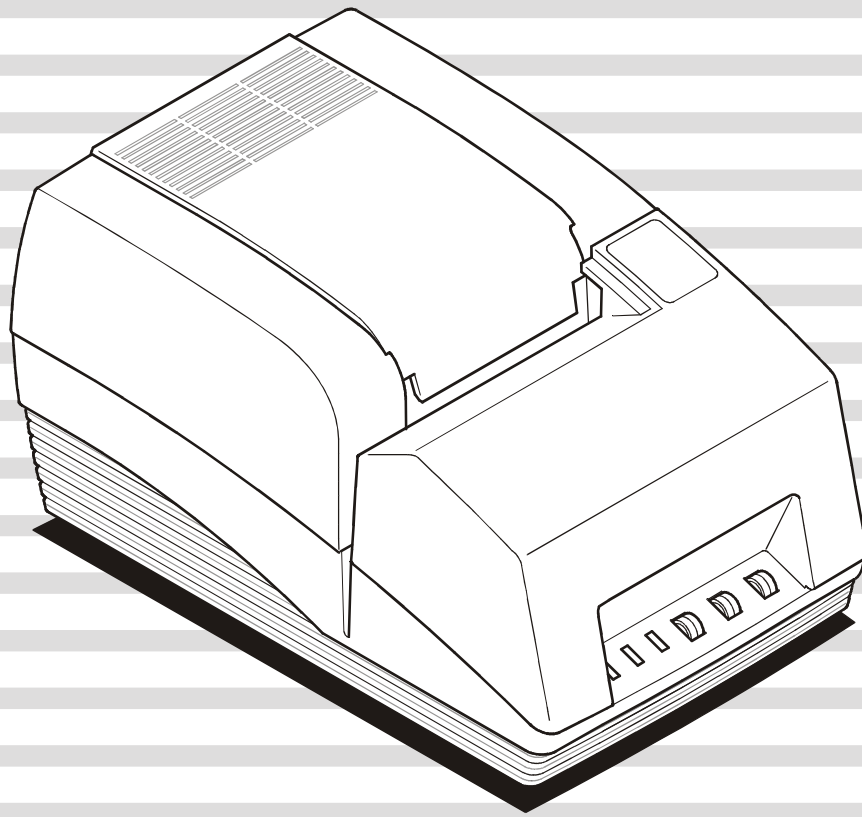


P_COS SERIES 150

OPERATOR'S GUIDE



ithaca[®]
a product of TRANSACT



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



CAUTION:

**TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE BOTTOM OF PRINTER
NO USER - SERVICEABLE PARTS INSIDE**

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

WARNING: To prevent fire or shock hazard, do not expose this printer to rain or moisture.

Disclaimer

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Revision F, February 2003

Printed in the USA

Federal Communications Commission Radio Frequency Interference Statement

The Series 150 Printer complies with the limits for a Class A computing device in accordance with the specifications in Part 15 of FCC rules, which are designed to minimize radio frequency interference during installation; however, there is no guarantee that radio or television interference will not occur during any particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on while the radio or television is on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ◆ Reorient the radio or television receiving antenna;
- ◆ Relocate the printer with respect to the receiver;
- ◆ Plug the printer and receiver into different circuits.

If necessary, the user should consult their dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: *How to Identify and Resolve Radio/TV Interference Problems*.

This booklet is available from the US Government Printing Office, Washington, DC 20402. Ask for stock number 004-000-00345-4.

Canadian Department of Communications Radio Interference Statement

The Series 150 Printer does not exceed Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

UL, C-UL, VDE, CE Statement

Ithaca Series 150 Printers are UL and C-UL Listed, VDE Certified, and carry the CE Mark.

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ABOUT THE SERIES 150 PRINTER

ABOUT THIS OPERATOR'S GUIDE

WHO SHOULD READ THIS BOOK?

This book is intended for new and experienced operators. If you are going to set up, use, or maintain a Series 150 Printer with any point-of-sale system, then this book is for you.

WHAT IS COVERED IN THIS BOOK?

This book only covers the Series 150 Printer, not the entire point-of-sale system, but it will tell you all you need to know about using the printer properly. You will learn what supplies you need to order, how to set up and test the printer, and how to do the common tasks listed here:

- ◆ Change the paper;
- ◆ Print (validate) on a slip or form;
- ◆ Change the ribbon cassette;
- ◆ Change the print head;
- ◆ Correct problems; and
- ◆ Clean the printer.

This book also provides some general and technical information about the printer, so you will know what its features are, how reliable it is, and what its printing capabilities are.

WHERE CAN YOU FIND MORE INFORMATION?

A *Programmer's Guide* is available if you need to know how to program a point-of-sale terminal or a personal computer to work with the printer. It describes the commands the printer recognizes to perform its functions.

A *Maintenance Manual* is also available. It shows how to repair the Series 150 Printer and lists the replacement parts. The *Maintenance Manual* is intended for trained, service technicians.

For information about ordering these books, refer to the next section.

CONTACTING TRANSACT TECHNOLOGIES' ITHACA FACILITY

Contact the Ithaca facility for general information about the Series 150 Printer and how it works with your system. The Sales and Technical Support Departments will be able to help you with most of your questions. Call the Technical Support Department to receive technical support; order documentation; receive additional information about the Series 150 Printer; or send in a printer for service. To order supplies; receive information about other Ithaca products; or obtain information about your warranty, contact the Sales Department.

You may reach both the Sales and Technical Support Departments at the following address and telephone or fax numbers:

TransAct Technologies Incorporated
Ithaca Facility
20 Bomax Drive
Ithaca, NY 14850 USA

Telephone	(877) 7ithaca or (607) 257-8901
Main fax	(607) 257-8922
Sales fax	(607) 257-3868
Technical Support fax	(607) 257-3911
Web site	http://www.transact-tech.com

WARRANTY INFORMATION

OPTIONS

All Ithaca PcOS (personal computer, point-of-sale) Series 150 Printers come with a standard 24-month warranty covering both parts and labor that starts upon shipment from the factory. An optional warranty, covering both parts and labor for an additional 12 months, may be purchased separately.

For more information concerning the warranty options, please contact the Sales Department at TransAct's Ithaca facility. See "Contacting TransAct Technologies' Ithaca facility" on page 2.

SERVICE INFORMATION

TransAct Technologies is a full service organization designed to meet all of your printer service and repair requirements. If your printer needs service, please directly contact the Ithaca facility's Technical Support Department. See "Contacting TransAct Technologies' Ithaca facility" on page 2. Please have the model and serial numbers of the printer available. The numbers are on a decal located on the bottom of the printer.

TransAct offers the following service programs to meet your needs: Extended Warranties, Depot Repairs, Maintenance Contracts, and Internet Support.

ORDERING SUPPLIES

You may order supplies by calling the Ithaca facility or by faxing the order form that was shipped in the box with the printer. The fax number is (607) 257-3868. If you would like more forms, call Transact Technologies' Ithaca facility at (877) 7ithaca or (607) 257-8901, and ask for the Sales Department.

The following items may be ordered:

- ◆ Paper,
- ◆ Ribbon cassettes,
- ◆ Take-up spools,
- ◆ Print heads, and
- ◆ Cables.

PAPER

Paper	Type	Dimensions	Stock Number
Receipt Paper	Single-ply	Width: 3.25 inches (82.6 mm) Diameter: 3.5 inches (88.9 mm) Length: 240 feet (73.2 m)	100-1667
Receipt-Journal Paper	Double-ply	Width: 3.25 inches (82.6 mm) Diameter: 3.5 inches (88.9 mm) Length: 125 feet (38.1 m)	98-0558
Receipt-Journal Paper	Triple-ply	Width: 3.25 inches (82.6 mm) Diameter: 3.5 inches (88.9 mm) Length: 85 feet (25.9 m)	06-0720

RIBBON CASSETTES

Color	Supplier	Stock Numbe
Black	TransAct Technologies	100-7565
Purple	TransAct Technologies	100-7859

Note: Your warranty may be voided if other than genuine Ithaca ribbons are used.

TAKE-UP SPOOLS

Take-up Spool	Stock Number
Journal Take-up Spool	90-6415

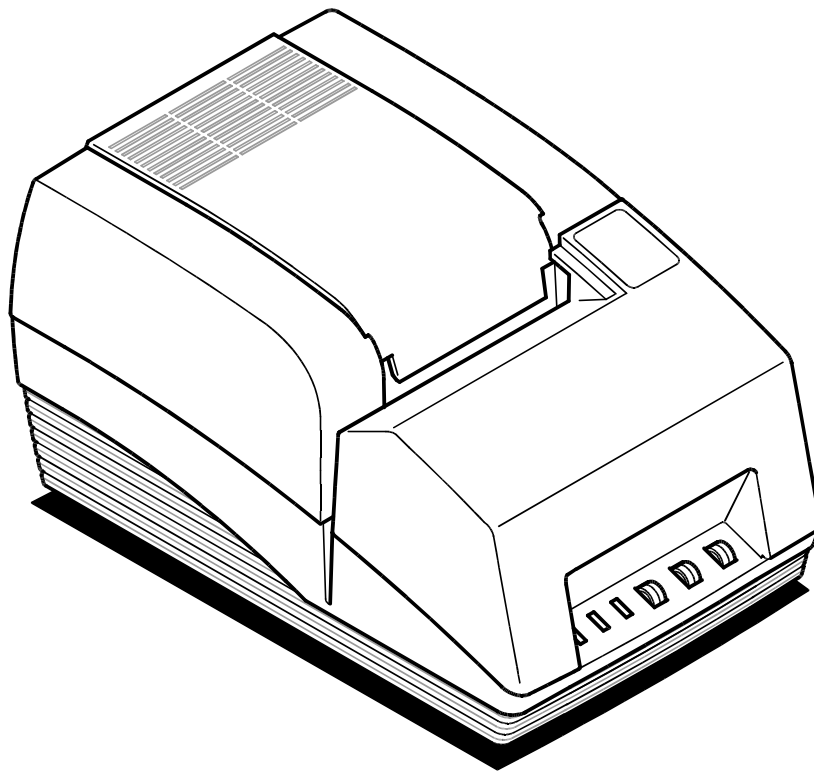
PRINT HEAD

Print Head and Clamp	Stock Number
Print Head	S90-7337
Print Head Clamp	06-0571

CABLES

Cables	Stock Number
110V Power Cable	06-0561
230V Power Cable	06-0806
Parallel Communication Cable	253-9800007
Serial Communication Cable PC, 9-pin Female to 9-pin Female PC, 9-pin Female to 25-pin Female	10-2020 10-2021

DESCRIPTION OF THE SERIES 150 PRINTER



The PcOS Series 150 Printer is a stand-alone, 40-column, high-speed impact printer. The Series 150 Printer performs a variety of functions in a point-of-sale environment and is available in the following models:

- ◆ Model 151: Receipt only
- ◆ Model 152: Receipt and Journal
- ◆ Model 153: Receipt and Validation (with or without journal)

SERIES 150 MODELS

Each of the three models in the Series 150 line of printers has its own unique set of features.

PcOS Model 151 Receipt Printer

The Model 151 Printer is a receipt printer used for applications requiring high-speed printing of receipts. Its features include:

- ◆ 340 characters per second bidirectional printing and
- ◆ 41-column printing at 17 characters per inch.

PcOS Model 152 Receipt and Journal Printer

The Model 152 Printer is a receipt and journal printer used for applications requiring a transaction audit trail (journal) in addition to high-speed printing of receipts. Its features include:

- ◆ 340 characters per second bidirectional printing,
- ◆ 41-column printing at 17 characters per inch, and
- ◆ Journal take-up.

PcOS Model 153 Receipt, Journal, and Validation Printer

The Model 153 Printer is a receipt and validation printer (with or without journal) used for applications requiring printing of up to 15 lines on inserted forms such as checks or charge slips. In addition, it can provide the same high-speed journal and receipt printing as the Model 152 Printer. Its features include:

- ◆ 340 characters per second bidirectional printing,
- ◆ 41-column printing at 17 characters per inch,
- ◆ Journal take-up (optional),
- ◆ Form insertion sensor, and
- ◆ 15-line validation.

STANDARD FEATURES

The following features and items are standard on all Series 150 Printers:

- ◆ Centronics parallel interface with 6K buffer
- ◆ Internal International Power Supply (95 to 265 VAC)
- ◆ Operating controls and lights
 - Power On/Off switch and indicator
 - Paper FEED button
 - Forms RELEASE button
 - RESUME button
- ◆ READY, ALARM, and POWER LED's
- ◆ Paper out sensor
- ◆ Operator controlled self-test
- ◆ Cash drawer connector (RJ12) and driver (24V, 1.5 amp pulse for approximately 150 ms; drawer open/closed status reporting)
- ◆ Nine-pin stored energy print head
- ◆ Short line-seeking logic
- ◆ Characters and graphics
 - Lowercase characters with descenders
 - 340 characters per second bidirectional printing
 - 41-column printing at 17 characters per inch
 - Emphasized and enhanced print
 - IBM compatible all-points-addressable (APA) graphics
- ◆ Software-controlled vertical spacing
- ◆ Snap-on ribbon cassette
- ◆ Steel receipt tear-off bar

OPTIONAL FEATURES

The optional features either replace a standard feature or enhance the operation of the printer. All optional features are installed at the factory and must be selected when the printer is ordered.

- ◆ RS-232C serial communication interface
- ◆ IEEE 1284 bidirectional parallel communication interface
- ◆ USB (Universal Serial Bus) - to be announced
- ◆ OPOS drivers
- ◆ Knife (Model 151)
- ◆ Journal cover lock
- ◆ Custom colors and logo

RELIABILITY

- ◆ Mean time between failure (except print head): 20,000 hours (Model 151)
- ◆ Print head life: 200 million characters
- ◆ Mean time to repair: 15 minutes

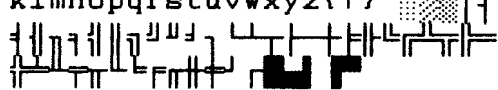
PRINT CHARACTERISTICS

The Series 150 Printer prints characters in a variety of pitches as shown in the following table and print samples. Each pitch can also be printed in a variety of styles affecting the appearance of the characters and the speed of the printer.

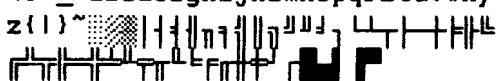
For information about programming the printer to print a particular pitch or style, please refer to the *Programmer's Guide*. You may order the *Programmer's Guide* from TransAct Technologies' Ithaca facility. See "Contacting TransAct Technologies' Ithaca facility" on page 2.

Pitch (Characters per Inch)	Maximum Characters per Line
8	18
10	24
12	28
15	36
17.1 (Condensed)	41
20 (Super condensed)	48
24 (Super condensed)	57
5 (Double-wide)	12
6 (Double-wide)	14
7.5 (Double-wide)	18
8.5 (Condensed, double-wide)	20
10 (Condensed, double-wide)	24
12 (Super condensed, double-wide)	28

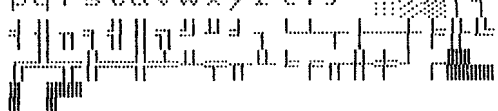
NLQ 10CPI Courier

!"#\$%&'()*+,-./012345678
9:;<=>?@ABCDEFGHIJKLMNPO
RSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~


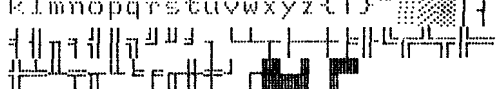
NLQ 12CPI Courier

!"#\$%&'()*+,-./0123456789:;<=
>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[
\\]^_`abcdefghijklmnopqrstuvwxyz{|}~


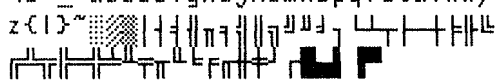
High Speed 8 CPI

!"#\$%&'()*+,-./0123456789:;<=
?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[
\\]^_`abcdefghijklmnopqrstuvwxyz{|}~


High Speed 10CPI

!"#\$%&'()*+,-./0123456789:;<=
?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\\]^_`
abcdefghijklmnopqrstuvwxyz{|}~


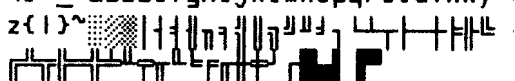
High Speed 12CPI

!"#\$%&'()*+,-./0123456789:;<=
>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\\]^_`
abcdefghijklmnopqrstuvwxyz{|}~


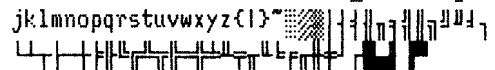
NLQ 10CPI Sans Serif

!"#\$%&'()*+,-./0123456789:;<=
?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\\]^_`
abcdefghijklmnopqrstuvwxyz{|}~

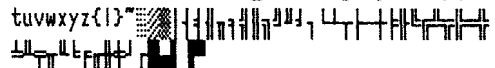

NLQ 12CPI Sans Serif

!"#\$%&'()*+,-./0123456789:;<=
>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\\]^_`
abcdefghijklmnopqrstuvwxyz{|}~


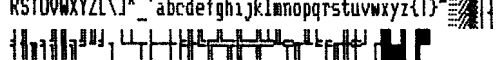
High Speed 15CPI

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abcdefghijklmnopqrstuvwxyz{|}~


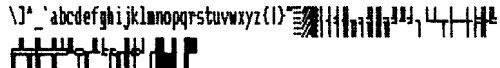
High Speed 17CPI

!"#\$%&'()*+,-./0123456789:;<=?@ABCDEFGH
IJKLMNPOQRSTUVWXYZ[\\]^_`
abcdefghijklmnopqrstuvwxyz{|}~


High Speed 20CPI

!"#\$%&'()*+,-./0123456789:;<=?@ABCDEFGH
IJKLMNPOQRSTUVWXYZ[\\]^_`
abcdefghijklmnopqrstuvwxyz{|}~


High Speed 24CPI

!"#\$%&'()*+,-./0123456789:;<=?@ABCDEFGH
IJKLMNPOQRSTUVWXYZ[\\]^_`
abcdefghijklmnopqrstuvwxyz{|}~


Ut1 10CPI Double Height
Double Width

```

! " # $ % & ' ( ) * +
, - . / 0 1 2 3 4 5 6 7
8 9 : ; < = > ? @ A B C
D E F G H I J K L M N O
P Q R S T U V W X Y Z [
\ ] ^ _ ` a b c d e f g
h i j k l m n o p q r s
t u v w x y z { | } ~ ¡
¢ £ ¤ ¥ ¦ § ¨ © ª «
¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸
¹ º » ¼ ½ ¾ ¿

```

Ut1 12CPI Double Height
Double Width

```

! " # $ % & ' ( ) * + , - .
/ 0 1 2 3 4 5 6 7 8 9 : ; < =
> ? @ A B C D E F G H I J K L
M N O P Q R S T U V W X Y Z [
\ ] ^ _ ` a b c d e f g h i j
k l m n o p q r s t u v w x y
z { | } ~ 

```

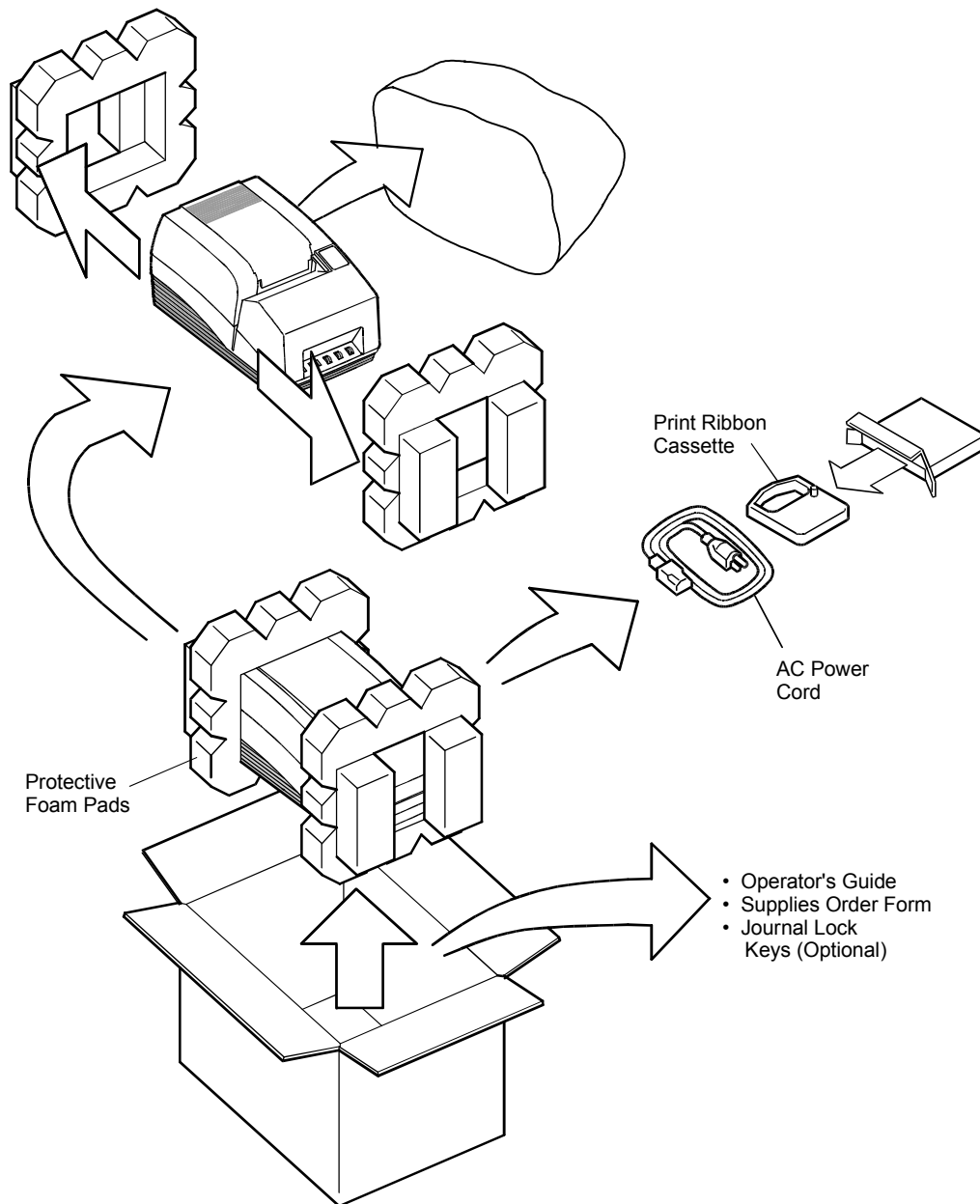
SETTING UP THE PRINTER

By following the instructions in this chapter, the Series 150 Printer should be ready to hook up to your system in just a few minutes.

Here is a list of what is covered in this chapter:

- ◆ Unpacking the printer,
- ◆ Removing the print head carriage restraint,
- ◆ Choosing a location for the printer,
- ◆ Installing a ribbon cassette,
- ◆ Connecting the power cord,
- ◆ Loading paper,
 - Loading receipt paper for the Model 151
 - Loading receipt-journal paper for the Models 152 and 153
- ◆ Testing the printer, and
- ◆ Connecting the communication and cash drawer cables.

UNPACKING THE PRINTER



Note: Be sure to save the box and packing materials in case you need to send the printer in for service.

1. Before removing the printer, examine the outside of the box for signs of damage.

If any damage has occurred to the box, carefully examine the printer and accessories before setting up the printer. Report all evidence of damage or abuse to your dealer and shipper.

2. Open the box and remove the papers and supplies envelope.
3. Carefully lift the printer out of the box, and set it on a sturdy, flat surface.
4. Separate the printer from the packing material. Take the printer out of the plastic bag.

Simply reverse these steps if you need to repack the printer to send in for service. (You will not need to repack the supplies).

5. Check the printer for any signs of damage.

If the printer or any parts are damaged, report this to your dealer and shipper immediately.

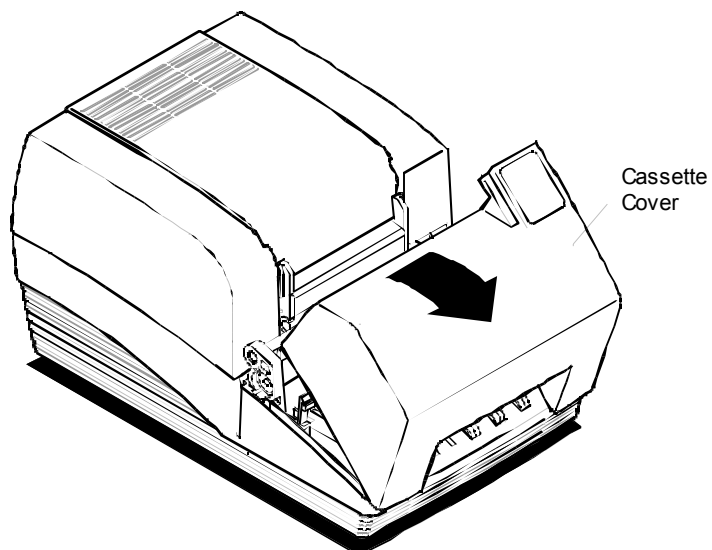
CHECK THAT ALL ITEMS ARE PRESENT

The following items are packed in the box and supplies envelope. If any items are missing, contact your dealer, or if you purchased the printer directly from TransAct Technologies, contact the Sales Department. Please refer to "Contacting TransAct Technologies' Ithaca facility" on page 2.

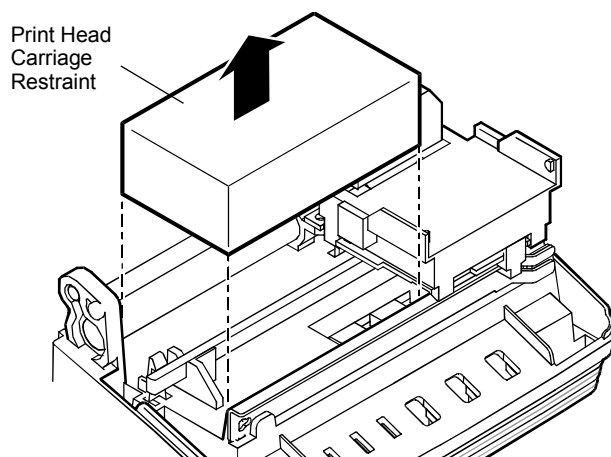
- ◆ PcOS Series 150 Operator's Guide
- ◆ Warranty sheet
- ◆ Supplies order form
- ◆ Printer with the following items installed
 - Print head
 - Journal take-up spool assembly (Models 152 or 153 only)
- ◆ Journal lock keys (if journal lock was ordered)
- ◆ Supplies envelope
 - AC power cord
 - Ribbon cassette
- ◆ Paper roll (located under the paper cover)
- ◆ Print head carriage restraint (located under the cassette cover)

REMOVE THE PRINT HEAD CARRIAGE RESTRAINT

Note: Do not remove the packing restraints if you will be moving the printer to another location before installation.



1. Open the cassette cover.



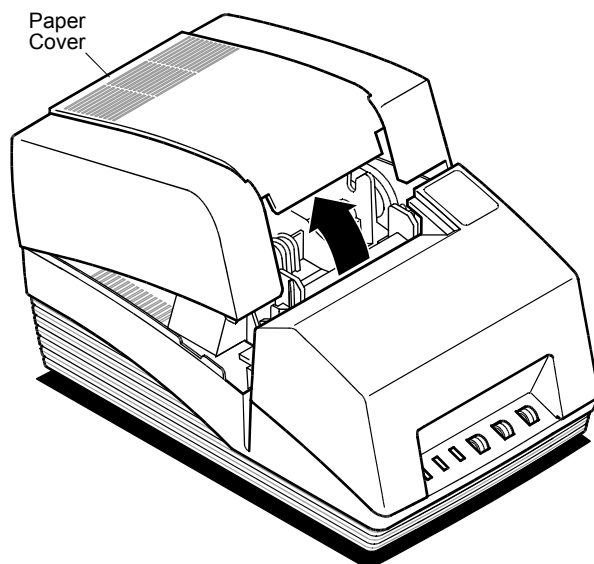
2. Remove the print head carriage restraint.

The foam restraint keeps the print head from moving during shipment. Be sure to remove the restraint before operating the printer.

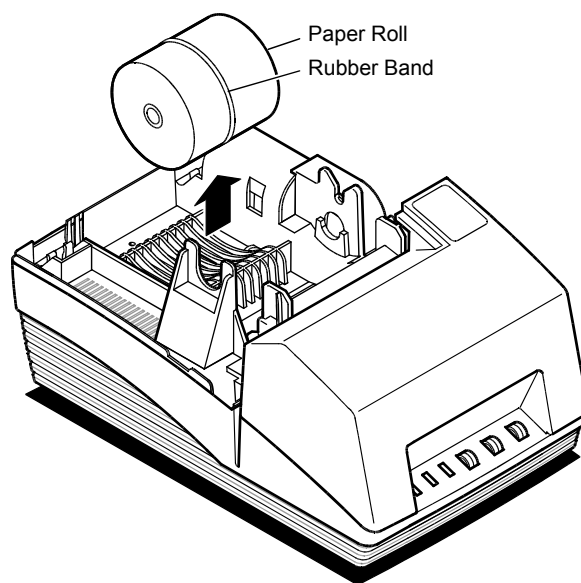
3. Close the cassette cover.

Note: Save the restraint with the box and packing materials in case you need to send the printer in for service.

REMOVE THE PAPER ROLL



1. Open the paper cover.



2. Remove the paper roll and the rubber band around it.
3. Close the paper cover.

CHOOSING A LOCATION FOR THE PRINTER

The Series 150 Printer is designed to be placed on point-of-sale terminals, counter tops, or any other flat, stable surface that can support the weight of the printer (about 6.5 pounds or 2.9 kg). Please refer to the dimensions when selecting the best possible location. Be aware of the environmental conditions of the location where you place the printer. Generally, the environment in any store is suitable for operating the printer.

DIMENSIONS

- ◆ Width: 6.75 inches (171 mm)
- ◆ Length: 11.3 inches (287 mm)
- ◆ Height: 5.6 inches (142 mm)

WEIGHT

- ◆ Approximate weight: 6.5 pounds (2.9 kg)
- ◆ Approximate shipping weight: 9.5 pounds (4.3 kg)

ENVIRONMENTAL CONDITIONS

The printer will run at its best when stored and operated in an environment that meets the following temperature and humidity conditions:

- ◆ Operating temperature: 0° to 50°C (32° to 122°F)
- ◆ Storage temperature: -10° to +60°C (-14° to +140°F)
- ◆ Operating relative humidity: 10% to 90% (noncondensing)
- ◆ Storage relative humidity: 5% to 90%

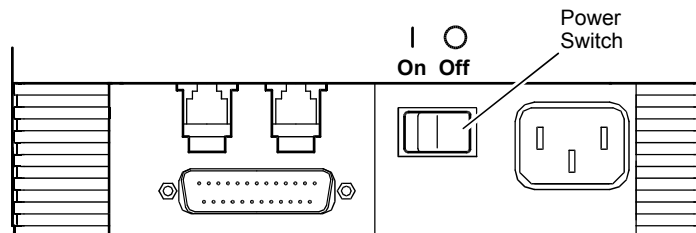
AIRFLOW

Make sure the printer is in a location where it will receive plenty of airflow. Do not block any passages or place anything on top of the printer.

INSTALLING A RIBBON CASSETTE

Note: If you are installing the printer, a ribbon cassette can be found in the supplies envelope.

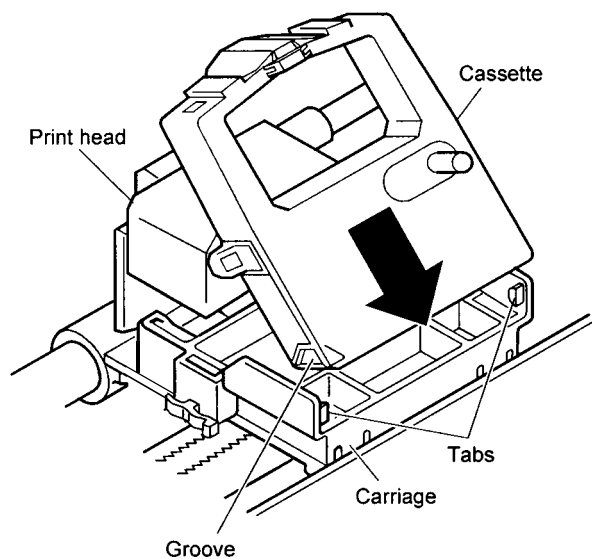
Follow these steps to install or change the ribbon cassette.



Back of
Printer

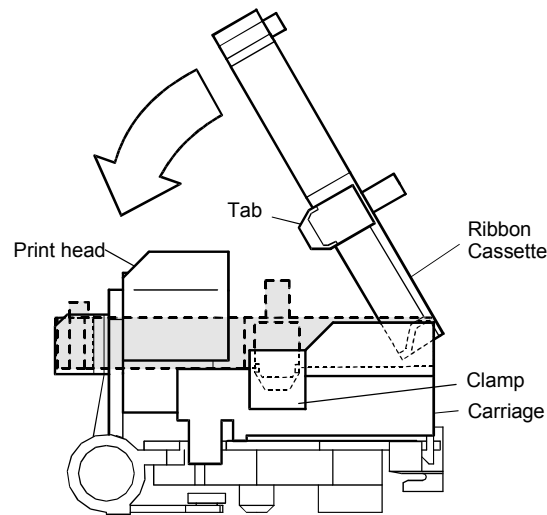
1. Turn off the printer (if already on), and open the cassette cover.

Note: If you are removing a used ribbon cassette, grasp both sides of the cassette. Lift and rock the cassette towards you. Do not pull the cassette straight up.

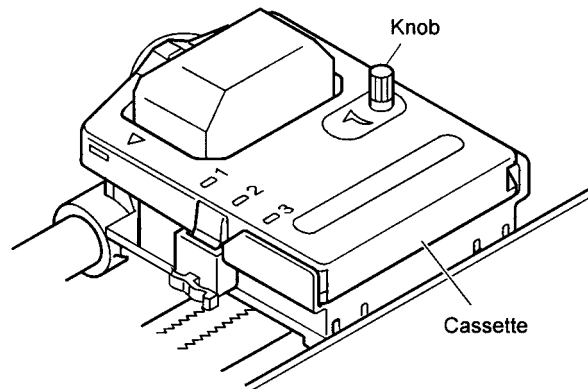


2. Holding the ribbon cassette with the Mylar guide facing away from you, insert the front of the cassette into the carriage. See the following illustration.

Note: It is important to fit the front edge of the ribbon cassette into the carriage first. Do not place the ribbon cassette flat on the carriage.



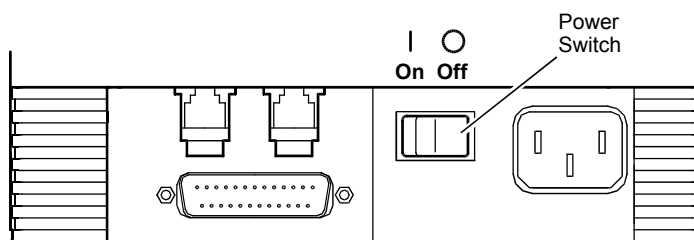
3. Rock the ribbon cassette forward, toward the print head, and then press down on it until the tabs on the cassette snap into the clamps on the carriage.



4. Tighten the ribbon by turning the knob on the cassette clockwise.
5. Close the cassette cover.
6. Turn the printer back on (if already installed).
If you are setting up the printer, go to the next section.

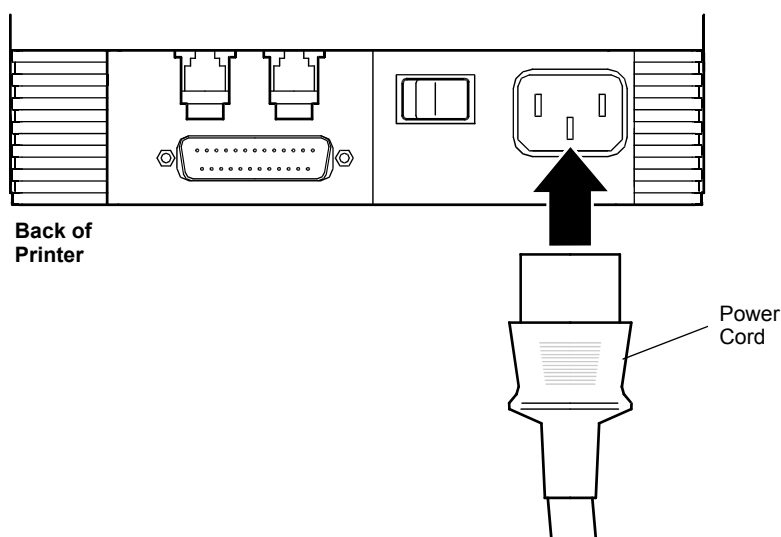
CONNECTING THE POWER CORD

Caution: The printer must be grounded through the three-prong power connector. Do not use a ground-defeating adapter.



Back of
Printer

1. Turn off the power switch.



Back of
Printer

2. Connect the power cord to the power socket located on the back of the printer and the external AC power source.
The power cord is in the supplies envelope.
3. Turn on the printer. The READY light turns green indicating the printer is functioning.

Note: The printer takes about 1.5 seconds to begin operation.

LOADING AND REMOVING PAPER

This section describes how to load and remove paper. Change the paper when the ALARM light turns red. This indicates that the paper is low. The printer will stop. You must change the paper for the printer to resume operation.

INSTALL THE NEW PAPER ROLL

Follow these instructions for loading either single- or multiple-ply paper.

Note: If this is a new installation, a receipt roll is supplied with the printer. If you are changing multiple-ply paper, remove the journal take-up roll before loading the new roll. See “Remove the Journal Take-up Roll” on page 34.

Installing Paper without the Knife Option

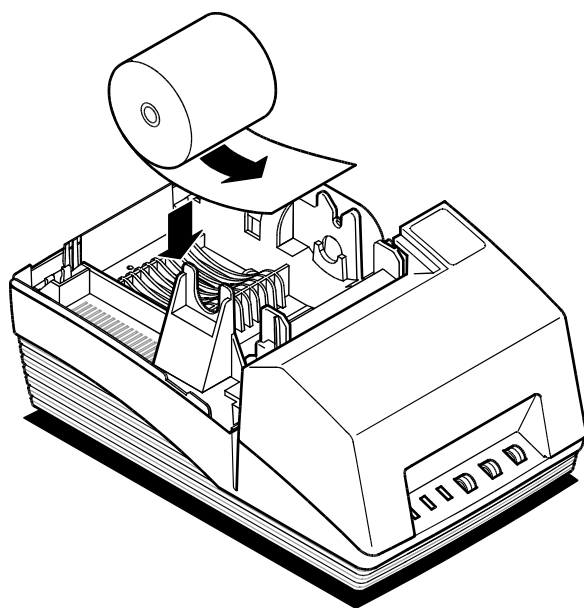
If your printer has the optional knife installed, refer to “Installing Paper with the Knife Option” on page 30 for paper loading instructions.

1. Open the paper cover.

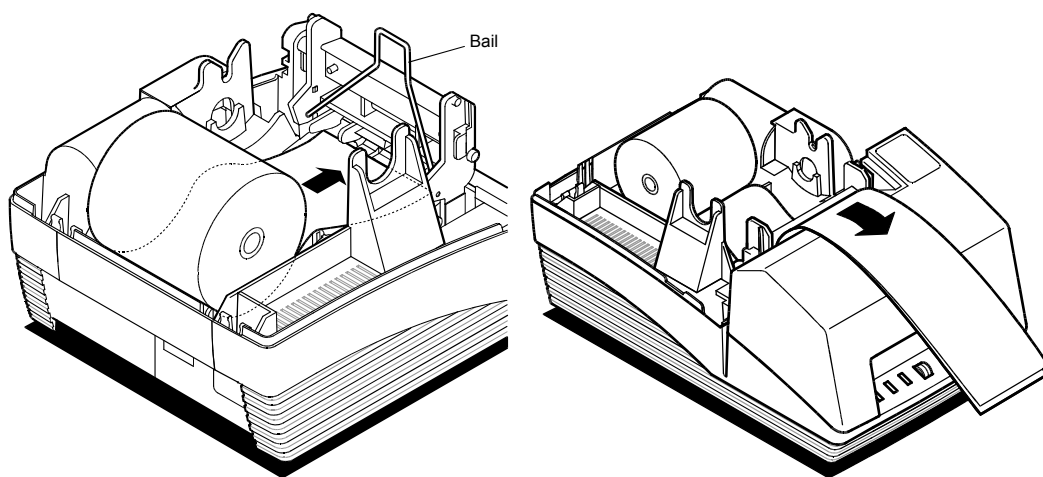
If you are changing the paper, remove the used supply roll. Do not pull on the paper to remove unused paper from the printer. Instead, push the FEED button. This removes unused paper from the printer safely.

2. Tear off a clean edge on the new roll, and fold the paper straight.

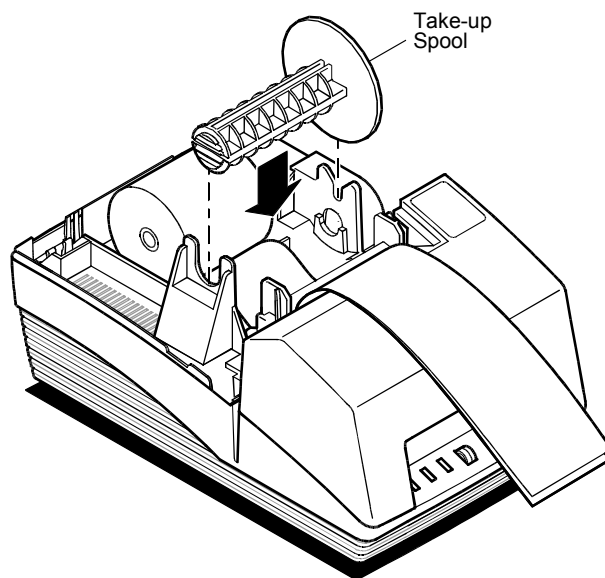
This makes it easier to load the paper.



3. Place the roll in the printer, so the paper unwinds from the bottom (front).



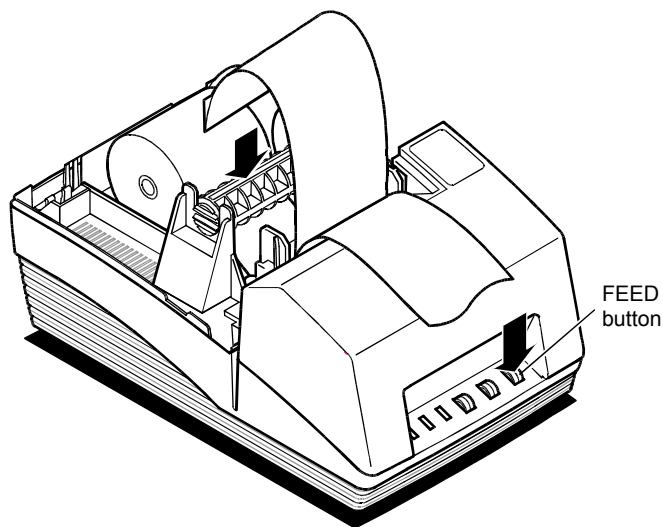
4. Slide the edge of the paper under the optional bail and into the paper load throat. This will activate the paper feed. The printer will automatically feed approximately 12 inches of paper.



5. If you are loading multiple-ply paper, place the take-up spool into the printer, lining up the gears.

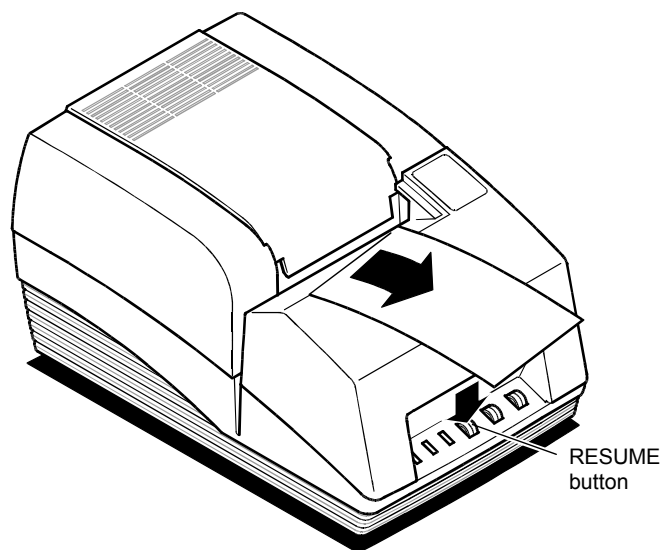
If you are loading single-ply paper, continue with Step 10.

6. Separate the paper plies. The white ply is always used for the receipt.



7. Fold the edge of the journal ply, and insert it into the slot on the take-up spool.

8. Press the FEED button to wind two or three turns of the journal ply onto the take-up spool.



9. Close the paper cover, and then tear off any excess receipt paper.
Press the RESUME button to put the printer on-line.
If at any time the paper does not feed, repeat the steps. If this does not work, remove the paper and restart.

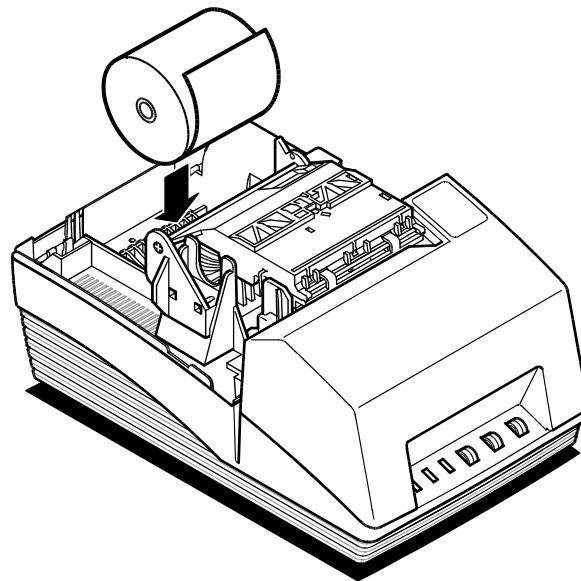
Installing Paper with the Knife Option

If the optional knife unit is not installed on your printer, refer to “Installing Paper without the Knife Option” on page 26 for paper loading instructions.

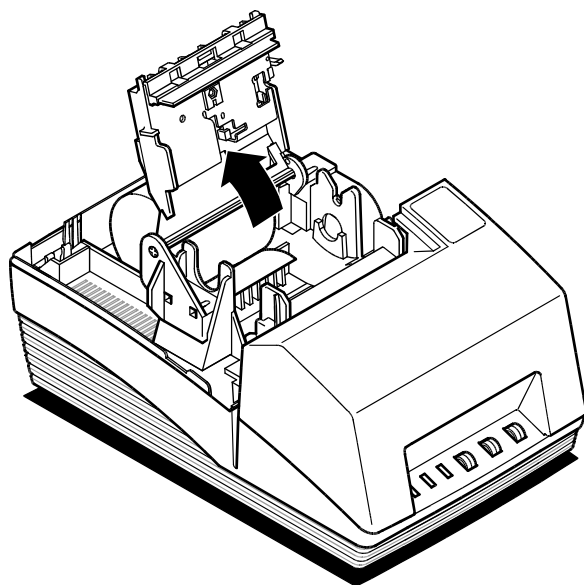
1. Open the paper cover.

If you are changing the paper, remove the used supply roll. Do not pull on the paper to remove unused paper from the printer. Instead, push the FEED button. This removes unused paper from the printer safely.

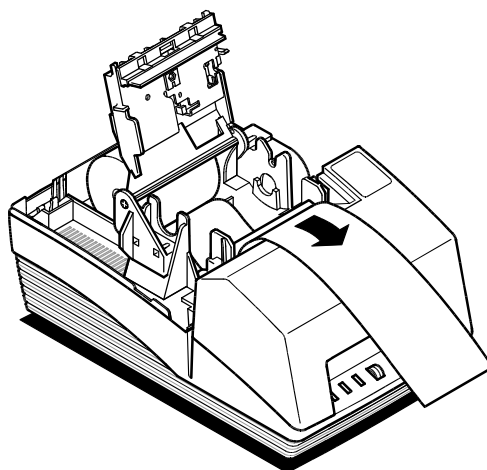
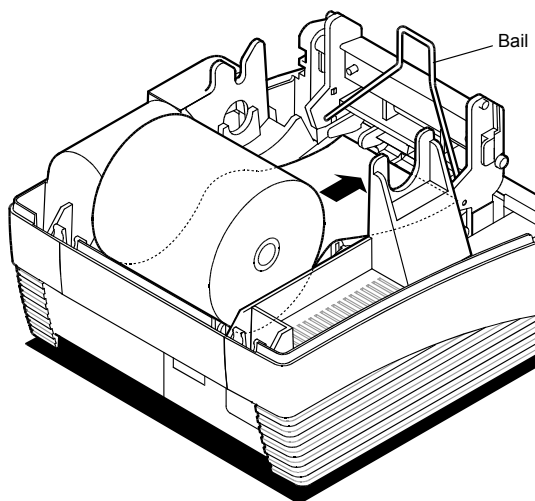
2. Tear off a clean edge on the new roll.



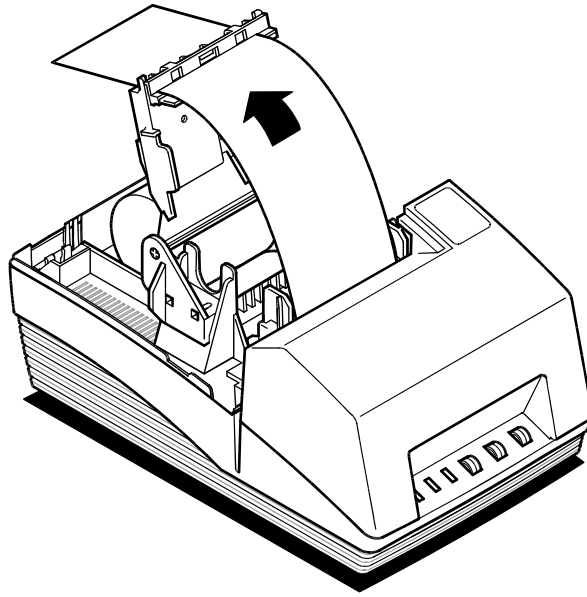
3. Place the roll in the printer, so the paper unwinds from the bottom (front).



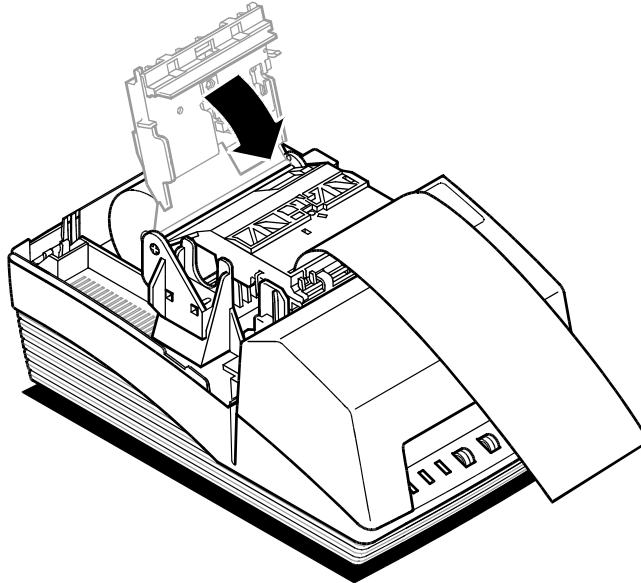
4. Open the knife unit.



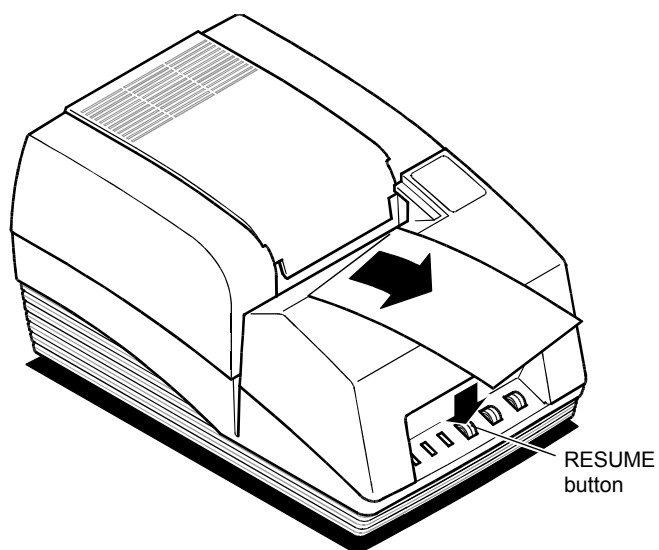
5. Slide the edge of the paper under the bail (optional) and into the paper load throat. This will activate the paper feed. The printer will automatically feed approximately 12 inches of paper.



6. Insert the receipt (white) ply into the slot at the top of the knife unit.



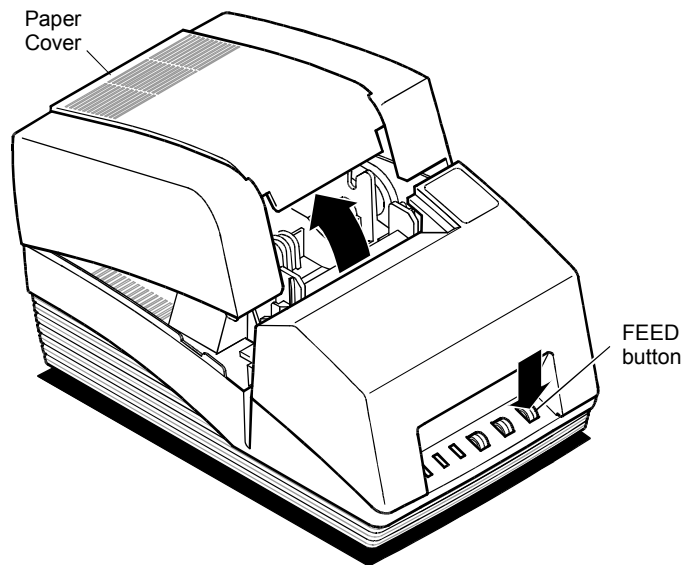
7. Close the knife unit.



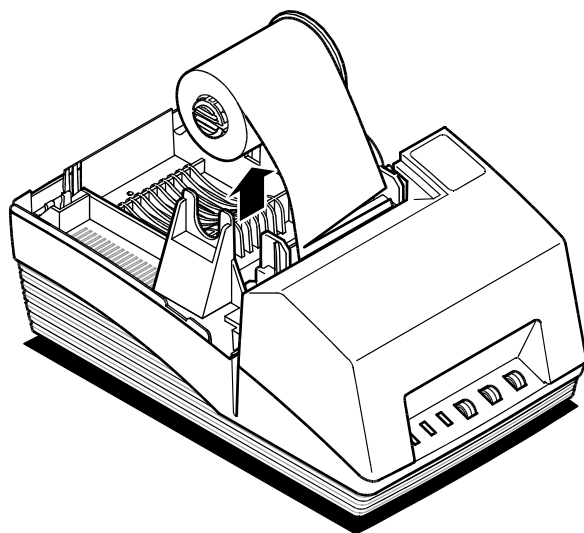
8. Close the paper cover, and then tear off any excess receipt paper.
Press the RESUME button to put the printer on-line.
If at any time the paper does not feed, repeat the steps. If this does not work, remove the paper and start over.

REMOVE THE JOURNAL TAKE-UP ROLL

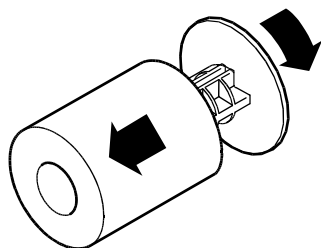
If you are changing multiple-ply paper, you must remove the journal take-up roll before installing the supply roll.



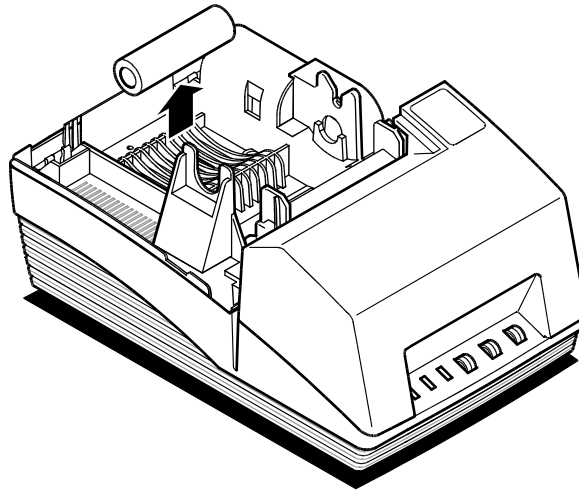
1. Open the paper cover.
2. Press the FEED button to advance the journal paper past the last journal entry.



3. Lift the take-up spool from the printer, and cut the paper below the last journal entry. Be sure that all entries are included.

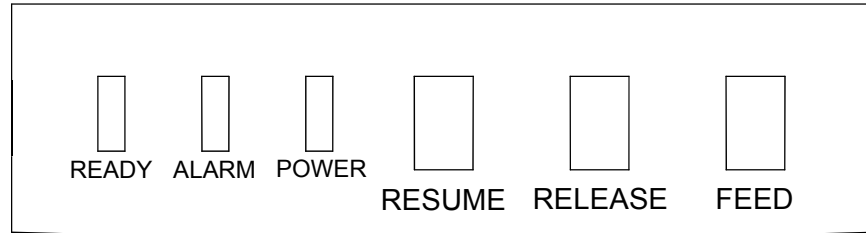


4. Slide the printed journal off the take-up core, and put it in a safe place.
If the paper sticks on the core, hold the paper, and twist the core in the direction opposite the way the paper is wound.



5. Remove the journal supply roll. Remove unused paper from the printer. Do not pull on the paper to remove unused paper from the printer. Instead, push the FEED button. This removes unused paper from the printer safely.

OPERATING THE KEYPAD



The keypad contains three buttons and three indicator lights for easy operation. The AC power switch is on the left rear side of the printer. Take a few minutes to become familiar with the keypad, so you will be prepared if something unexpected happens.

INDICATOR LIGHTS

There are three indicator lights: READY, ALARM, and POWER. The READY and POWER lights are green. The ALARM light is red.

READY Light	ALARM Light	POWER Light	Condition	Printer State
ON	OFF	ON	Printer is ready to print.	READY
FLASHING	OFF	ON	Form Status Conditions Insert validation form.	READY
ON	OFF	ON	Form is inserted.	ERROR
OFF	ON	ON	Error Conditions Printer is out of paper.	
OFF	FLASHING	ON	Printer has faulted.	

BUTTONS

The printer includes three buttons and a power switch, which have the following functions:

FEED Button

The FEED button advances receipt/journal paper.

RELEASE Button

The RELEASE button is used on printers with validation capability. This button opens and closes the forms compensation assembly, allowing forms to be removed if a jam occurs.

RESUME Button

The RESUME button has two functions.

1. It places the printer on-line after a paper loading operation has been completed.
2. After a printer fault has occurred, the ALARM LED will display the error code after the RESUME button is pressed. (Refer to the *Programmer's Guide* for details.)

Note: When the printer is reinitialized, all printer functions return to their default settings (as if the printer were just turned on), and any data stored in the print buffer is lost. In this case, you may need to reenter the current transaction.

AC POWER SWITCH

The AC power switch turns on the printer and puts it on-line (READY light on, ALARM light off, POWER light on).

Note: The printer takes about 1.5 seconds to begin operation.

TESTING THE PRINTER

Test the printer to ensure that it is running properly. The sample on the following page shows what a printout of the test may look like. The test pattern varies depending on the printer model and the character set selected when the printer was ordered.

Run the test after loading the paper, but before connecting it to a host system. If the characters do not print properly or if ink is smudged on the paper, check to make sure the paper and ribbon are installed correctly. If you are still having problems, please refer to “Correcting Problems” on page 52.

If the printer is still not working correctly, contact your dealer or the Technical Support Department at TransAct Technologies’ Ithaca facility. For more information, see “Contacting TransAct Technologies’ Ithaca facility” on page 2.

TESTING THE PRINTER

1. Turn off the printer.
2. Press and hold the RESUME button while turning on the printer.

When the printer starts printing, let go of the RESUME button.

Some technical information is printed before the self-test menu. This information identifies the part number and date of the printer’s firmware.

If the self-test menu is incomplete or does not look at all like the sample, contact the Technical Support Department at TransAct Technologies’ Ithaca facility. Please refer to “Contacting TransAct Technologies’ Ithaca facility” on page 2.

TEST MODE

Series 150
Firmware PE-5000 Rev. 00.12
Serial No. - XX000000000
Total Chars. - 0008897471
Total Lines - 01112121
Comp. Cycles - 00000573
Hours - 000227

KEY	Function
Resume	= Run the selected test.
Release	= Select the next test.
Feed	= Line feed.

Receipt Test

Validation Test

Self Test

Mechanical Test Mode

Rolling ASCII Test

Burn in Test

The menu shown on the sample above provides different modes for running the printer. These modes are described in the *Programmer's Guide*. To order a *Programmer's Guide*, see "Contacting TransAct Technologies' Ithaca facility" on page 2. If you have accidentally entered this menu mode, turn the printer off and then back on again.

CONNECTING THE CABLES

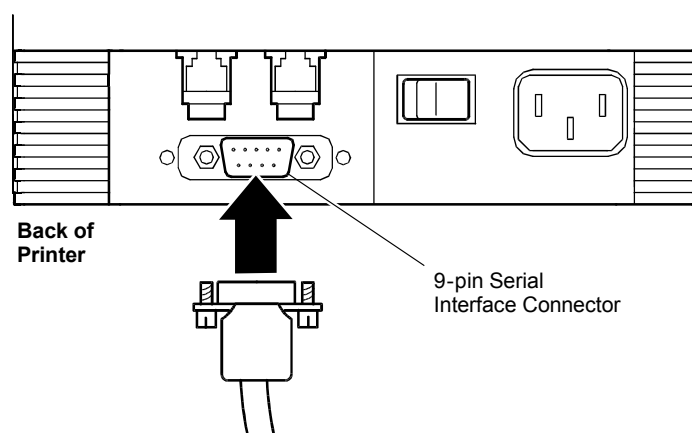
Now that you have set up and tested the printer, you are ready to connect it to the point-of-sale system.

CONNECTING THE COMMUNICATION CABLE

Depending on the interface your system uses, either connect the serial or parallel communication cable to the appropriate connector on the back of the printer.

Cables are provided by your dealer or system installer. If cables are unavailable, contact TransAct Technologies' Ithaca facility. See "Contacting TransAct Technologies' Ithaca facility" on page 2.

Connect the Serial Cable

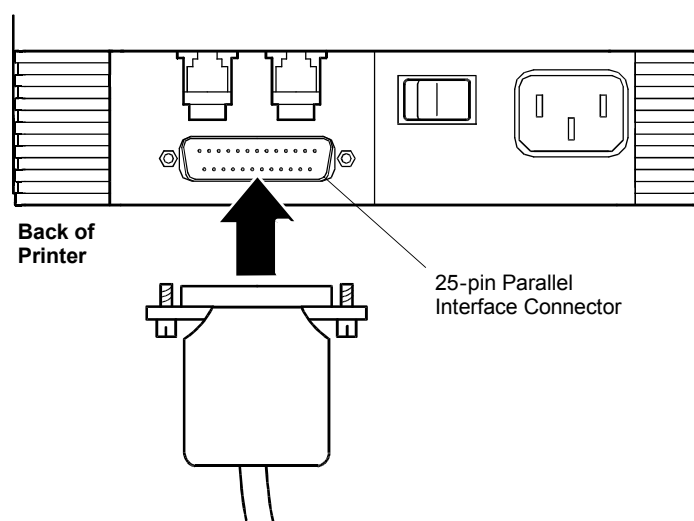


1. Turn off the printer and host system or personal computer.
2. Connect the 9-pin serial interface cable to the connector located on the back of the printer.

Refer to the Appendix for information on the serial cable requirements.

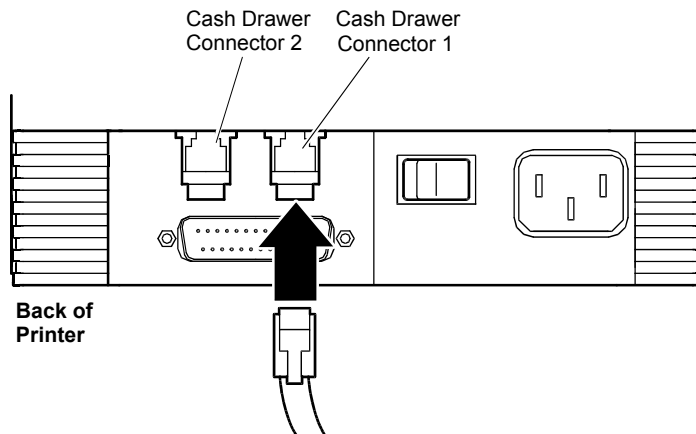
3. Tighten the two mounting screws on each side of the cable connector.

Connect the Parallel Cable



1. Turn off the printer and host system or personal computer.
2. Connect the 25-pin parallel interface cable to the connector located on the back of the printer.
Refer to the Appendix for information on the parallel cable requirements.
3. Tighten the two mounting screws on each side of the cable connector.

CONNECTING THE CASH DRAWER CABLES



1. Turn off the printer.
2. Connect the cash drawer cable to the connectors located on the back of the printer.

Adapters are available for connecting cash drawers equipped with BNC style connectors. (The standard is a modular, telephone style connector).

If you need an adapter, contact the Technical Support Department at TransAct Technologies. See "Contacting TransAct Technologies' Ithaca facility" on page 2.

SETUP CHECKLIST

Did you follow all of the steps to set up the printer? Here they are again for you to check.

- ☐ Unpack the printer.
- ☐ Remove the print head carriage restraint.
- ☐ Choose a location for the printer.
- ☐ Check the environmental conditions and the airflow around the printer.
- ☐ Install the ribbon cassette.
- ☐ Connect the power cord.
- ☐ Load the paper: single-ply paper on the Model 151, multiple-ply paper on the Models 152 and 153.
- ☐ Test the printer.
- ☐ Connect the communication and cash drawer cables.

OPERATING THE PRINTER

Once the printer has been setup, there is very little that you need to do during daily operation because most functions are controlled by the host system. This chapter describes the following few tasks that you will need to perform, some more often than others:

- ◆ Validating a form or slip,
- ◆ Changing the print head,
- ◆ Cleaning the printer, and
- ◆ Correcting problems.

Note: For instructions on changing the ribbon cassette and paper, see the following sections:

- ◆ “Installing the Ribbon Cassette,” on page 23 and
- ◆ “Loading and Removing Paper,” on page 26.

PRINTING ON FORMS OR SLIPS

The Model 153 Printer can print on inserted forms. Inserting the form in the top of the printer, generally referred to as validation, allows up to 15 lines of print on a form.

VALIDATING A FORM

Forms can be validated with either a single line or multiple lines of information. Depending on the host system and software used, either the host system or the printer controls the procedure. In most cases, the only difference is whether you are prompted by the host system or the printer.

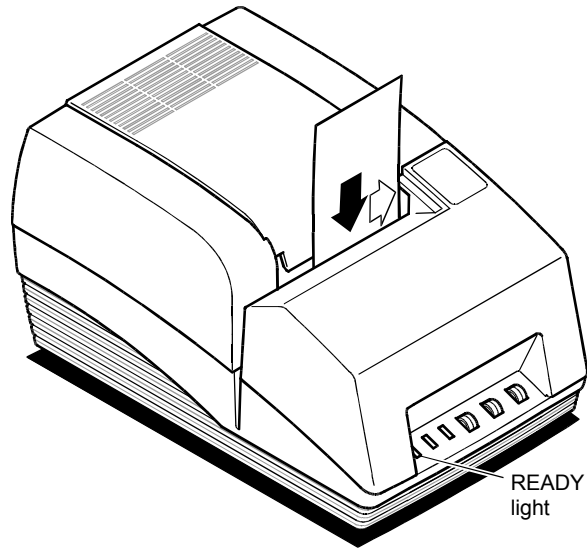
Validation Controlled by the Host System

When the host system controls the validation procedure, it opens the area on the printer where forms are inserted.

1. The host system indicates that a form is to be inserted for validation.
2. Insert the form into the printer.
3. The host system closes the validation clamp and prints on the form.
4. When printing is complete, the host system releases the form.
5. Remove the form.

Validation Controlled by the Printer

1. The host system sends a validation transaction to the printer.
2. The printer opens the validation clamp, so the form can be inserted. The READY light flashes green.



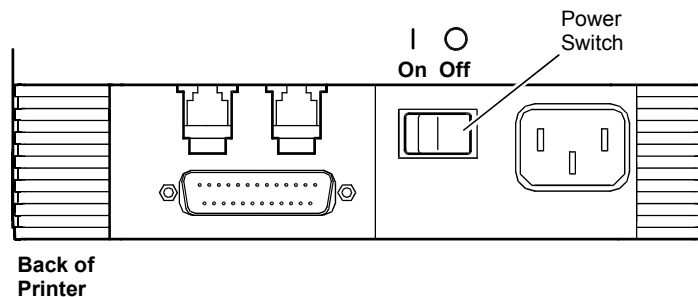
3. Insert the form into the printer.
Push the form down until it bottoms in the validation slot. Then push the form all the way to the right until the READY light stops flashing green.
When the READY light stops flashing, the form is properly positioned, and the printer clamps the form automatically.
4. The printer prints on the form.
When printing is complete, the host releases the form.
5. Remove the form.

CHANGING THE PRINT HEAD

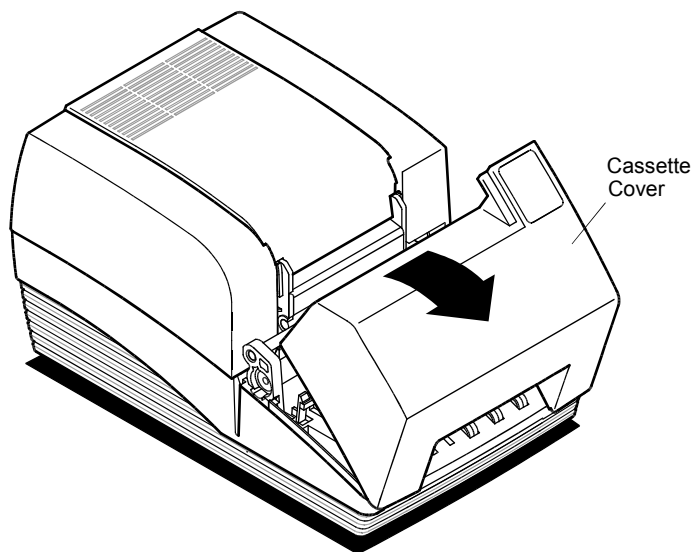
Replace the print head when the characters are consistently misprinting.

REMOVING THE USED PRINT HEAD

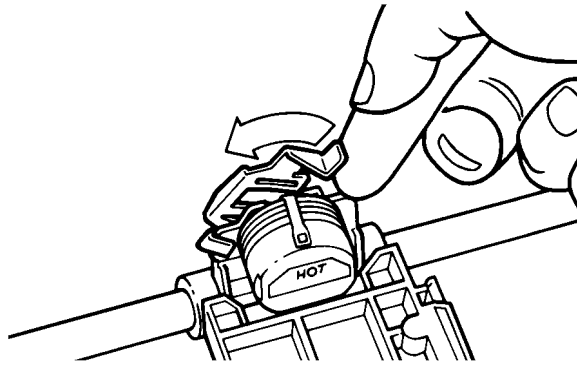
Caution: The print head can get very hot.



1. Turn off the printer, and allow the print head to cool for at least three minutes before replacing it.

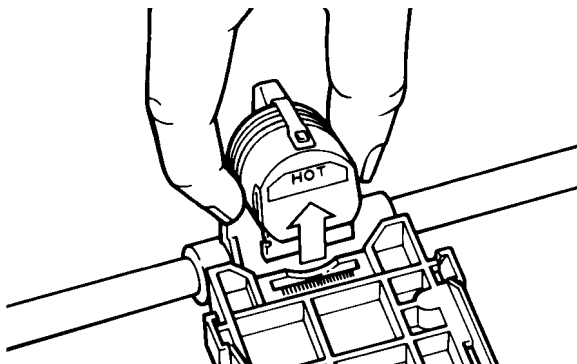


2. Open the cassette cover.
3. Remove the ribbon cassette.



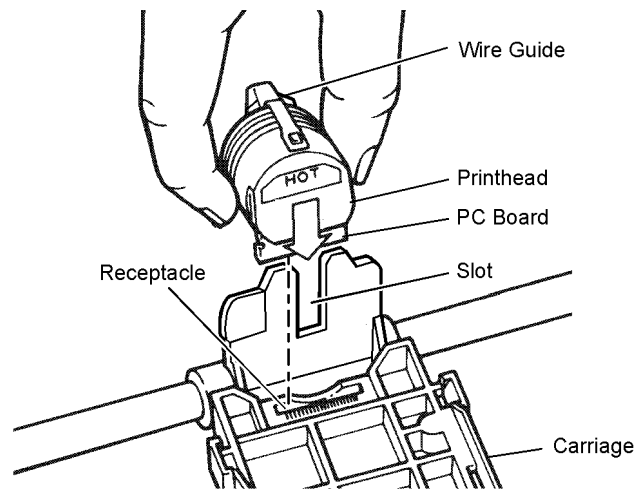
4. Open the print head clip by grasping the tab on the right side of the clip and rotating it from right to left.

Note: In the following illustration, the heat sink is not shown for clarity.



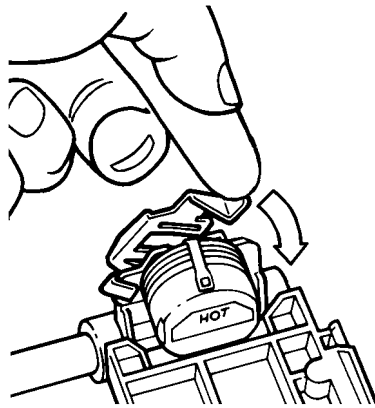
5. Lift the print head straight up out of the carriage.

INSTALLING THE NEW PRINT HEAD



1. Slide the black wire guide on the back of the print head into the slot on the carriage. Make sure the tabs on the wire guide hold the print head against the carriage.
2. Align the PC board on the bottom of the print head with the receptacle on the carriage.
3. Press the print head into the carriage. Do not force the PC board into the receptacle. Make sure it is lined up properly.

Note: In the following illustration, the heat sink is not shown for clarity.



4. Close the print head clip by rotating it from left to right and latching it into place.
5. Replace the ribbon cassette, and then close the cassette cover.
6. Turn on the printer.
7. After the print head has been replaced, test the printer to make sure it is printing properly.

CLEANING THE PRINTER

Cleaning the printer occasionally and keeping it well maintained will help it to last longer and run better.

Caution: Do not use rubbing alcohol or any other cleaner on the internal parts of the printer, as some parts may crack or break.

The internal parts of the printer do not require lubrication or routine maintenance. Apply a common cleaner such as fantastik® or Formula 409® to a damp cloth and gently wipe the surface of the printer and keypad.

CORRECTING PROBLEMS

INDICATOR LIGHTS SHOW A PROBLEM

READY Light	ALARM Light	POWER Light	Explanation
OFF	FLASHING	ON	The printer has a fault or may have a paper jam. Clear the jam, then power cycle the printer.
OFF	ON	ON	The printer is out of paper. Change the paper, so the printer can resume operation.

ALARM LIGHT FLASHES RED

Any time the ALARM light is flashing red, the printer has failed.

You should first find out the code for the error that has occurred and then attempt to correct the problem.

Press the RESUME button to display the error code. The number of times the READY light blinks indicates the error code. Count the blinks and write down the number. If you lose count, push the RESUME button again to redisplay the code. You must find out the error code before turning off the printer.

After you have written down the error code, complete the following steps to correct the problem.

1. Turn off the power switch.
2. Open the paper and cassette covers.
3. Do the following.

Remove or clear any jams or obstructions, such as misfed paper.

Turn the knob on the ribbon cassette to be sure it is operating correctly.

Move the print head from side-to-side to be sure that it slides easily.

4. Close both covers.
5. Turn on the power switch.

If you are unable to correct the problem, contact the Technical Support Department at TransAct Technologies. Please refer to “Contacting TransAct Technologies’ Ithaca facility” on page 2. Have the error code handy when you call.

PRINTER SMEARS CHARACTERS

Contact the Technical Support Department at TransAct Technologies. Please refer to “Contacting TransAct Technologies’ Ithaca facility” on page 2.

APPENDIX

CASH DRAWER PIN ASSIGNMENTS (ITHACA)

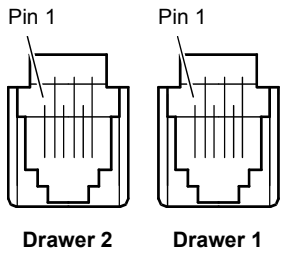
Function	Drawer 1	Drawer 2
Drawer Drive +	Pin 4	Pin 4
Drawer Drive -	Pin 5	Pin 1
Status Signal	Pin 2	Pin 2
Status Ground	Pin 3	Pin 3
Frame Ground	Pin 6	Pin 6
No Connect	Pin 1	Pin 5

CASH DRAWER PIN ASSIGNMENTS (EPSON/AXIOHM)

Function	Drawer 1	Drawer 2
Drawer Drive +	Pin 4	Pin 4
Drawer Drive -	Pin 2	Pin 5
No Connect	Pin 5	Pin 2
Status Signal	Pin 3	Pin 3
Status Ground	Pin 6	Pin 6
Frame Ground	Pin 1	Pin 1

CASH DRAWER PIN ASSIGNMENTS (STAR)

Function	Drawer 1	Drawer 2
Drawer Drive -	Pin 2	Pin 2
Drawer Drive +	Pin 3	Pin 3
Status Signal	Pin 6	Pin 6
Frame Ground	Pin 1	Pin 1
No Connect	Pin 4	Pin 4
No Connect	Pin 5	Pin 5



SERIAL CABLE

CABLE REQUIREMENTS

The PcOS Series 150 Printer requires an RS-232C shielded cable, no more than 50 feet long. The cable must be UL and CSA approved.

RS-232C COMMUNICATION

The RS-232C interface uses the following protocol and communication characteristics:

- ◆ Up to 19.2 K baud,
- ◆ Up to 6K buffer,
- ◆ Ready/Busy or XON/XOFF Protocol, and
- ◆ Communication Diagnostic Mode.

PIN ASSIGNMENTS FOR 9-PIN PRINTER CONNECTOR

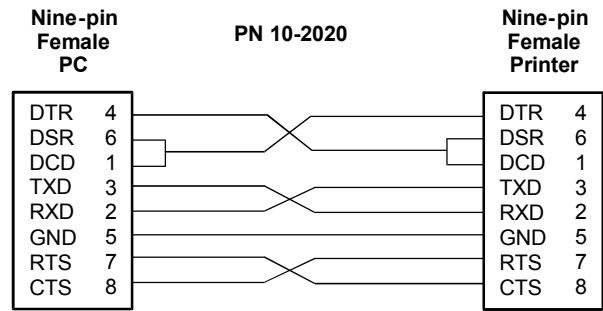
Pin	Name	Description
1	DCD	Data Carrier Detect
2	RX	Receive Data
3	TX	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	SSD	Secondary Data

SERIAL CABLE CONFIGURATIONS

The following cable configurations are for different host requirements.

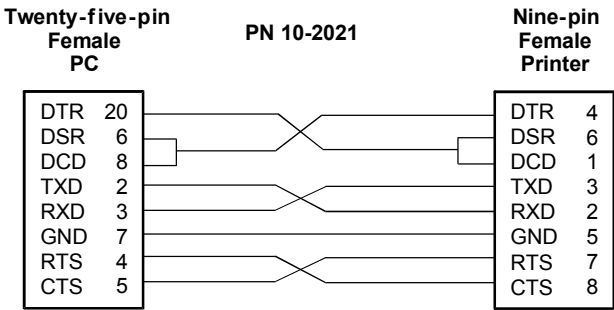
Serial PC to Series 150

Ithaca part number 10-2020, 9-pin to 9-pin female cable, should be used to connect PcOS Series 150 Printers to personal computers or PS/2’s with 9-pin serial ports.



Serial AT to Series 150

Ithaca part number 10-2021, 9-pin to 25-pin female cable, should be used to connect PcOS Series 150 printers to personal computers or PS/2’s with 25-pin serial ports.



PARALLEL CABLE

CABLE REQUIREMENTS

The PcOS Series 150 Printer requires a 25-pin male D-shell connector at the printer. To connect the printer to most personal computers, use Ithaca part number 253-9800007, 25-pin male to 25-pin male parallel interconnect cable.

PIN ASSIGNMENTS

Pin(s)	Signal	Description	Direction
1	STROBE	Clock data to printer	Host to Printer
2-9	D0 - D7	Data	Host to Printer
10	ACK\	Printer accepted data	Printer to Host
11	BUSY	Printer busy	Printer to Host
12	PE	Paper Out/Status	Printer to Host
13	SLCT	Printer selected	Printer to Host
14	AUTOFD	Autofeed paper	Host to Printer
15	ERR\	Printer error	Printer to Host
16	INIT\	Initialize the printer	Host to Printer
17	SLIN	Select printer	Host to Printer
18-25	GND	Ground	

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